REMARKS

Claims 1-18 and 24-25 are canceled.

Claims 28-49 are added. They contain limitations that are the same or similar to those in canceled claims.

Respectfully Submitted,

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IN THE CLAIMS

Claims 1-18 (canceled)

Claim 19 (currently amended): An electrical machine comprising:

first and second magnetically permeable parallel cores, each core being elongated to thereby define a lengthwise direction and first and second core profiles transverse to the lengthwise direction;

first coils wound about the first core profile and sequentially disposed along the length of the first core;

second coils wound about the second core profile and sequentially disposed along the length of the second core; and

a multi-pole elongated permanent magnet parallel with ~~both~~ the cores and located between them, the magnet being movable, relative to the cores, in the lengthwise direction.

Claim 20 (original): The machine of claim 19 wherein the lengthwise direction extends about an axis of rotation such that the elongated cores are ring-shaped and centered on the axis and the coils are toroidally wound about the cores and sequentially disposed about the axis.

Claim 21 (currently amended): The machine of claim 19 further comprising a second multi-pole elongated permanent magnet that is parallel with the first magnet, configured to move in unison with the first magnet, and ~~located at the opposite side of the second core as the first magnet~~ separated from the first magnet by the second core.

Claim 22 (original): An electrical machine comprising:

a magnetically permeable ring-shaped core centered on an axis of rotation;

coils wound toroidally about the core and sequentially disposed along a circumferential direction of the core; and

a multi-pole ring-shaped permanent magnet centered on the axis;

the core and the magnet being disposed one about the other.

Claim 23 (original): The machine of claim 22 wherein the magnet is disposed about the core.

Claims 24-25 (canceled)

Claim 26 (currently amended): A method comprising:

providing a ring-shaped permanent magnet having radially inner and outer surfaces and opposite first and second side surfaces;

overmolding a casing material about the magnet to yield a magnet assembly, the casing material comprising a material that shrinks as it cools from a molten state~~,~~ and is located along the radially ~~and~~ outer ~~surfaces~~ surface and the first side surface; and

mounting the assembly about a rotor shaft.

Claim 27 (original): The method of claim 26 wherein the casing material comprises zinc or a material that shrinks as it cools from a molten state at least as much as zinc does.

Claim 28 (new): The method of claim 26 wherein the material is also located along the radially inner surface.

Claim 29 (new): A method comprising:

providing a ring-shaped permanent magnet centered on an axis and having radially inner and outer surfaces and opposite first and second side surfaces;

overmolding a casing material about the magnet to yield a magnet assembly;

determining a boring location for the particular assembly by performing a balance test on the assembly;

boring an axially-extending hole in the blank at the boring location; and

securing a rotor shaft in the hole.

Claim 30 (new): The method of claim 29 wherein the determining step comprises determining both the boring location and a boring angle for the particular assembly by performing the balance test on the assembly, and the boring step includes boring the hole at the boring location at the boring angle.

Claim 31 (new): The method of claim 29 wherein the casing material is located along the radially inner and outer surfaces and the first side surface

Claim 32 (new): An electrical machine comprising:

a magnetically permeable ring-shaped core centered on an axis of rotation and having first and second axially-opposite sides;

coils wound toroidally about the core and disposed sequentially along a circumferential direction of the core, each coil including first and second side legs extending radially alongside the first and second sides of the core;

first coil-free spaces between adjacent first side legs, and second coil-free spaces between adjacent second side legs; and

a side flange overlying the first side of the core in one of the first coil-free spaces.

Claim 33 (new): The machine of claim 32 wherein the side flange is configured to provide a flat side surface defined by the first side flange and the side legs adjacent the first side flange.

Claim 34 (new): The machine of claim 32 wherein the side flange has a thickness approximately equal to a bundle thickness of the side legs adjacent the first side flange.

Claim 35 (new): The machine of claim 32 wherein the side flange fills the one of the coil-free spaces.

Claim 36 (new): The machine of claim 32 wherein the side flange comprises plastic.

Claim 37 (new): The machine of claim 32 wherein the side flange comprises magnetically-permeable material.

Claim 38 (new): The machine of claim 37 wherein the magnetically-permeable material is iron-based.

Claim 39 (new): The machine of claim 32 further comprising a permanent magnet, rotatable about the axis of rotation relative to the core, having a surface that is adjacent and facing one of the sides of the core.

Claim 40 (new): The machine of claim 32 further comprising a second side flange lying against the second side of the core in one of the second coil-free spaces that is opposite the one of the first coil-free spaces, and a bridging structure extending over a radially-outer face of the core from the first side flange to the second side flange, the first and second side flanges and the bridging structure together comprising a bracket.

Claim 41 (new): The machine of claim 40 the bracket is configured to mount the core in place.

Claim 42 (new): The machine of claim 40 comprising one such bracket installed about each pair of first and second coil-free spaces along the circumferential direction to provide a first flat peripheral surface defined by the first side flanges and the first legs and a second flat peripheral surface defined by the second side flanges and the second legs.

Claim 43 (new): The machine of claim 40 wherein the bridging structure includes a flange filling the space between adjacent radially-outer legs of the coils and having a thickness approximately equal to a bundle thickness of the adjacent radially-outer legs.

Claim 44 (new): An electrical machine comprising:

a magnetically permeable core that is elongated to thereby define a lengthwise direction and a profile that is transverse to the lengthwise direction;

coils wound about the core profile and sequentially disposed along the lengthwise direction; and

a magnet adjacent to the core and movable relative to the core;

the core including stranded or powdered magnetically permeable material.

Claim 45 (new): The machine of claim 44 wherein the magnet comprises a multi-pole permanent magnet having a surface that is adjacent and facing one of the side surfaces of the core.

Claim 46 (new): The machine of claim 44 wherein the magnetically permeable material is formed of lengthwise-extending magnetically permeable wire.

Claim 47 (new): The machine of claim 44 wherein the magnetically permeable material is formed of magnetically permeable powder.

Claim 48 (new): The machine of claim 44 wherein the core includes a first section comprising the stranded or granulated magnetically permeable material and a second section, underlying or overlying the first section, comprising a stack of magnetically permeable tape.

Claim 49 (new): The machine of claim 45 wherein the core and the first and second sections are ring-shaped and centered on an axis of rotation, such that the lengthwise direction is a circumferential direction, and one of the sections is disposed about the other section, and wherein the first section comprises turns of iron-based wire, and the second section comprises spirally wound iron-based tape.